

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Applicant: Seiichi IZUMI  
 U.S. Serial No.: Filed Concurrently Herewith  
 Title of Invention: OFDM DIVERSITY TRANSMISSION

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*Edward Nay*

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**PRELIMINARY AMENDMENT**

Assistant Commissioner for Patents  
 Box Patent Application (35 U.S.C. 111)  
 Washington, D.C. 20231

Sir:

Before the issuance of the first Office Action, please amend the above-identified application as follows:

**IN THE CLAIMS:**

Please amend claims 3-6 and 9-17

3. (Amended) Transmission diversity device according to claim 1,

characterized in that

it comprises a subcarrier phase comparison dependent amplitude adjustment function.

4. (Amended) Transmission diversity device according to claim 1,

characterized in that

it comprises a function of averaging (12) the phase differences of a plurality of subcarriers respectively received at one antenna element (2, 3).

5. (Amended) Transmission diversity device according to claim 1,

characterized in that

it comprises the function of frequency adjusting (11) the phase differences of the subcarriers received respectively at one antenna element (2, 3).

6. (Amended) Transmission diversity device according to claim 1,

characterized in that

it comprises the function of comparing (10) only predetermined subcarriers of different antenna elements (2, 3).

9. (Amended) Method according to claim 7,

characterized in that

the multicarrier transmission is a OFDM transmission.

10. (Amended) Method according to claim 7,

characterized by

the step of amplitude adjustment depending on the subcarrier phase comparison.

11. (Amended) Method according to claim 7,

characterized by

the step of averaging (12) the phase differences of a plurality of subcarriers respectively received at one antenna element (2, 3).

12. (Amended) Method according to claim 7,

characterized by

the step of frequency adjusting (11) the phase differences of the subcarriers received respectively at one antenna elements (2, 3).

13. (Amended) Method according to claim 7,

characterized by

the step of comparing (10) only predetermined subcarriers of different antenna elements (2, 3).

14. (Amended) Method according to claim 7,

characterized that

the step of comparing (10) comprises the step of correlating the time domain data.

15. (Amended) Method according to claim 7,

characterized that

in case it is detected that at any of the antenna elements (2, 3) no signal or a signal with an amplitude below a predetermined threshold is received, said antenna element (2, 3) is not used for a transmission.

16. (Amended) Method according to claim 7,

characterized that

it is only applied in the base station of a wireless transmission system.

17. (Amended) Computer program performing, when loaded in a memory of a transmission diversity device, a method according to claim 7.

**REMARKS**

Claims 1-17 remain in the application. Claims 3-6 and 9-17 have been amended to eliminate multiple dependencies. Attached hereto is a marked up version of the changes made to claims 3-6 and 9-17 by the current amendment. The attached page is captioned "Version with markings to show changes made." The filing fee has been calculated based upon these amendments to the claims.

Respectfully submitted,

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**VERSION WITH MARKINGS TO SHOW CHANGES MADE****In the claims:**

3. (Amended) Transmission diversity device according to ~~anyone of the preceding claims~~ claim 1,

characterized in that

it comprises a subcarrier phase comparison dependent amplitude adjustment function.

4. (Amended) Transmission diversity device according to ~~anyone of the preceding claims~~ claim 1,

characterized in that

it comprises a function of averaging (12) the phase differences of a plurality of subcarriers respectively received at one antenna element (2, 3).

5. (Amended) Transmission diversity device according to ~~anyone of the preceding claims~~ claim 1,

characterized in that

it comprises the function of frequency adjusting (11) the phase differences of the subcarriers received respectively at one antenna element (2, 3).

6. (Amended) Transmission diversity device according to ~~anyone of claims 1 to 3~~ claim 1, characterized in that

it comprises the function of comparing (10) only predetermined subcarriers of different antenna elements (2, 3).

9. (Amended) Method according to claim 7 ~~or 8~~,

characterized in that

the multicarrier transmission is a OFDM transmission.

10. (Amended) Method according to ~~anyone of claims 7 to 9~~ claim 7,

characterized by

the step of amplitude adjustment depending on the subcarrier phase comparison.

11. (Amended) Method according to ~~anyone of claims 7 to 10~~ claim 7,

characterized by

the step of averaging (12) the phase differences of a plurality of subcarriers respectively received at one antenna element (2, 3).

12. (Amended) Method according to ~~anyone of claims 7 to 11~~ claim 7,

characterized by

the step of frequency adjusting (11) the phase differences of the subcarriers received respectively at one antenna elements (2, 3).

13. (Amended) Method according to ~~anyone of claims 7 to 10~~ claim 7,

characterized by

the step of comparing (10) only predetermined subcarriers of different antenna elements (2, 3).

14. (Amended) Method according to ~~anyone of claims 7 to 10~~ claim 7,

characterized that

the step of comparing (10) comprises the step of correlating the time domain data.

15. (Amended) Method according to ~~anyone of claims 7 to 14~~ claim 7,

characterized that

in case it is detected that at any of the antenna elements (2, 3) no signal or a signal with an amplitude below a predetermined threshold is received, said antenna element (2, 3) is not used for a transmission.

16. (Amended) Method according to ~~anyone of claims 7 to 15~~ claim 7,

characterized that

it is only applied in the base station of a wireless transmission system.

17. (Amended) Computer program performing, when loaded in a memory of a transmission diversity device, a method according to ~~anyone of claims 7 to 16~~ claim 7.

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